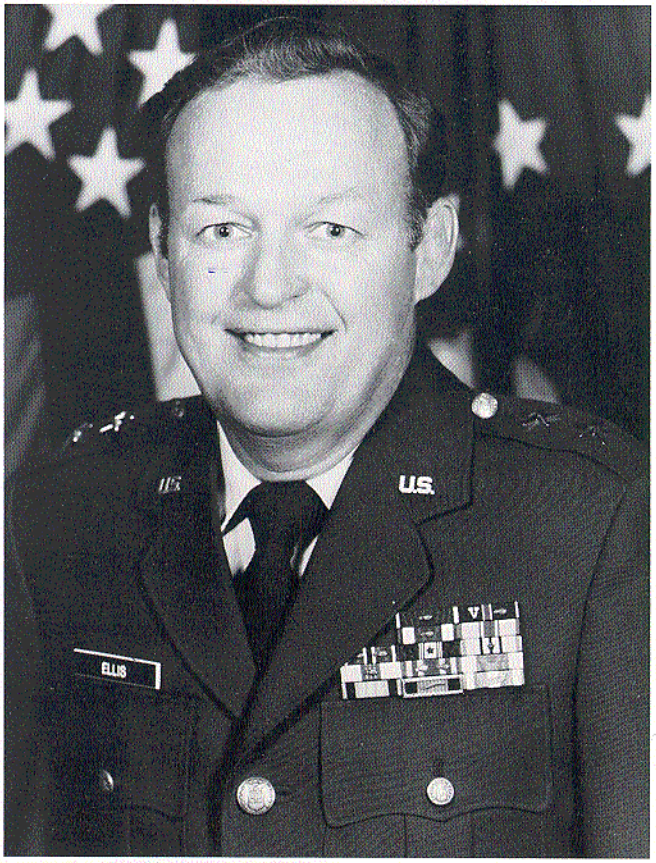
United States Air Force

Design Awards Program

1986 Annual Report



From the Director

Our 1986 award winners reflect a conscious effort by the entire Engineering and Services community to provide the Air Force with attractive, functional and economical facilities. I am particu arly proud that this year's winners include a variety of facilities. This clearly indicates that we are placing as much emphasis on designing excellent facilities which directly support the Air Force's capability to fly and fight as we are on facilities which improve the quality of life.

When we are designing, constructing and maintaining facilities, I encourage you to strive to insure that these facilities represent excellence to our customers as well as to our engineering community. Our evaluation of a facility is unimportant if the facility does not satisfy our customers' needs and expectations. We can avoid this pitfall by developing an "excellent service to the customer" way of doing business. Get to know your customers better, work with them to establish relevant parameters for evaluating future facilities which emphasizes customer satisfaction as well as technical solution, and let installation commanders know that our goal is to provide them with a built environment which supports their programs. If we use this approach, I am sure that we will continue to enhance the Air Force mission and to develop facilities which reflect a commitment of service to the customer.

GEORGE E. ELLIS, P.E.
Major General, USAF
Director of Engineering and Services

Cover: Consolidated Space Operations Center
Falcon AFS, Colorado

Background

Projects submitted for consideration in the annual USAF Design Awards Program are reviewed by a distinguished jury composed of two members of the American Institute of Architects, two members of the Society of American Military Engineers and one representative from the American Society of Civil Engineers. Awards are given in two separate categories—completed projects and concept projects.

The Air Force sets no limitations on either the number or the type of projects that can be recognized each year. Awards may be given for design excellence in a number of areas, including architecture, interior design, landscape design, energy conservation, and civil and structural engineering. All projects are given equal consideration, whether designed by base civil engineering personnel, the design agent or an architectural-engineering firm.

This year's program marks the eleventh anniversary of the USAF Design Awards Program which was initiated in 1976 to recognize and promote design excellence. With the selection of the 1986 award-winning projects, a total of 68 completed projects and programs and 57 concept designs have been honored as representing the best of Air Force design. These totals include eight projects which have received awards in both categories.

This report also includes USAF award winning projects from the Department of Defense Design Awards Program. This program biannually recognizes outstanding architecture, engineering and landscape design in projects designed for the military services. Awards may be given in nine categories and the best overall project is given the Blue Seal Award.

Air Force projects received three of the eight awards announced by the 1986 jury, plus the Blue Seal Award.

1986 USAF Design Award Program Award Winners

Completed Projects
Honor Awards

Static Aircraft Display
United States Air Force Academy, Colorado

Chapel
Travis AFB, California

Visitor Center
United States Air Force Academy, Colorado

Automotive Maintenance/Refueling Vehicle Shop
O'Hare Air Reserve Forces Facility, Chicago, Illinois

Completed Projects
Merit Awards

Water Tower
RAF Greenham Common, England

Officers Club Alterations
RAF Mildenhall, England

Dormitory Alterations
Barksdale AFB, Louisiana

Consolidated Space Operations Center
Falcon AFS, Colorado

Integrated Support Complex
F.E. Warren AFB, Wyoming

Concept Projects
Merit Awards

Logistical Systems Operational Center
McClellan AFB, California

Crew Readiness Facility
Lajes Field, Azores

Dining Hall Alterations
Offutt AFB, Nebraska

Dormitory Alterations
McGuire AFB, New Jersey

Officers Club
Goodfellow AFB, Texas

Personnel Support Facility
Fort MacArthur, California

Operational and Maintenance Training Facility
RAF Molesworth, England

1986 Department of Defense Design Awards

Design Excellence for Industrial Facilities

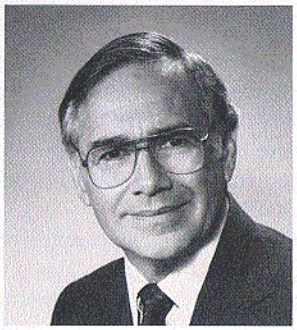
Minimally Attended Radar
Four Sites in Alaska

Design Excellence for Energy Conservation (Building)

Composite Operations and Training Facility
Bangor International Airport, Maine

Design Excellence for Architectural Facilities (Small) and Blue Seal Award

Operations and Training Facility
Kulis ANG Base, Alaska

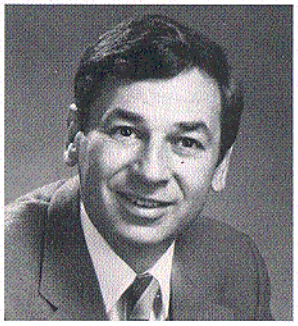


Mr. David R. Dibner, FAIA, is the Senior Vice President of Bernard Johnson Incorporated and Director of the firm's Washington office.

He has a varied and comprehensive background in the fields of architecture, engineering and planning. He has been a principal in two other major architecture firms, an officer in an interior design firm, a president of a real estate consulting firm, adjunct professor in architecture and served as Assistant Commissioner for Design and Construction for the General Services Administration from 1977 to 1982. In addition, he has written and lectured extensively on a broad range of professional topics.

Mr. Dibner has a Civil Engineering degree from Brooklyn College and a Bachelor of Architecture degree from the University of Pennsylvania. He was awarded his Fellowship in the American Institute of Architects in 1974.

He represented the Society of Military Engineers on the jury.



Mr. James R. Nelson, FAIA, is president of the Wilmington, Delaware full-service architectural firm, The Architects Studio, Inc.. His firm has been the recipient of several design awards at local and regional levels.

Mr. Nelson is active in the Delaware Society of Architects and served as president in 1977 and 1978. He was awarded his Fellowship in the American Institute of Architects in 1982, served as National Vice President of AIA in 1982 and served on the Board of Directors from 1979 to 1981. He was nominated to the Fine Arts Commission in 1984. In addition, he continues to be active in numerous civic and professional organizations.

Mr. Nelson received his Bachelor of Architecture degree from Cornell University. He represented the AIA on the jury.

Mr. Harry P. Reitman is a professional structural engineer registered in the Commonwealth of Virginia. He retired from the Senior Executive Service in 1985 after 37 years of government service, the last 12 years as the Associate Director of Engineering and Services, United States Air Force.

He is a Fellow of the Society of American Military Engineers and serves as a National Director. He was the SAME representative of the jury.

Mr. Reitman has Bachelor of Architectural Engineering and Master of Architectural Engineering degrees from Virginia Polytechnical Institute.

Mr. Robert Calhoun Smith, FAIA, is the President and Director of Design of Smith Segreti Tepper McMahon Harned, Architects and Planners, P.C., a Washington based architectural firm which designs commercial office structures and churches.

He is the architect for the Washington Cathedral and St. Matthew Cathedral in Washington, D.C.

He serves on the Board of Directors of the American Institute of Architects and served as an AIA representative on the jury.

Mr. Smith received a Bachelor of Science in Architecture degree from Rice University.

Mr. Albert A. Grant is the Director of Transportation Planning, Metropolitan Washington Council of Governments. He is active in numerous professional organizations and is the President-elect for the American Society of Civil Engineers for 1986-87. He served as the ASCE representative on the jury.

Mr. Grant has been Adjunct Professor, Graduate Courses in Urban Transportation, American University and Howard University, and has been the author or co-author of a number of articles on urban transportation.

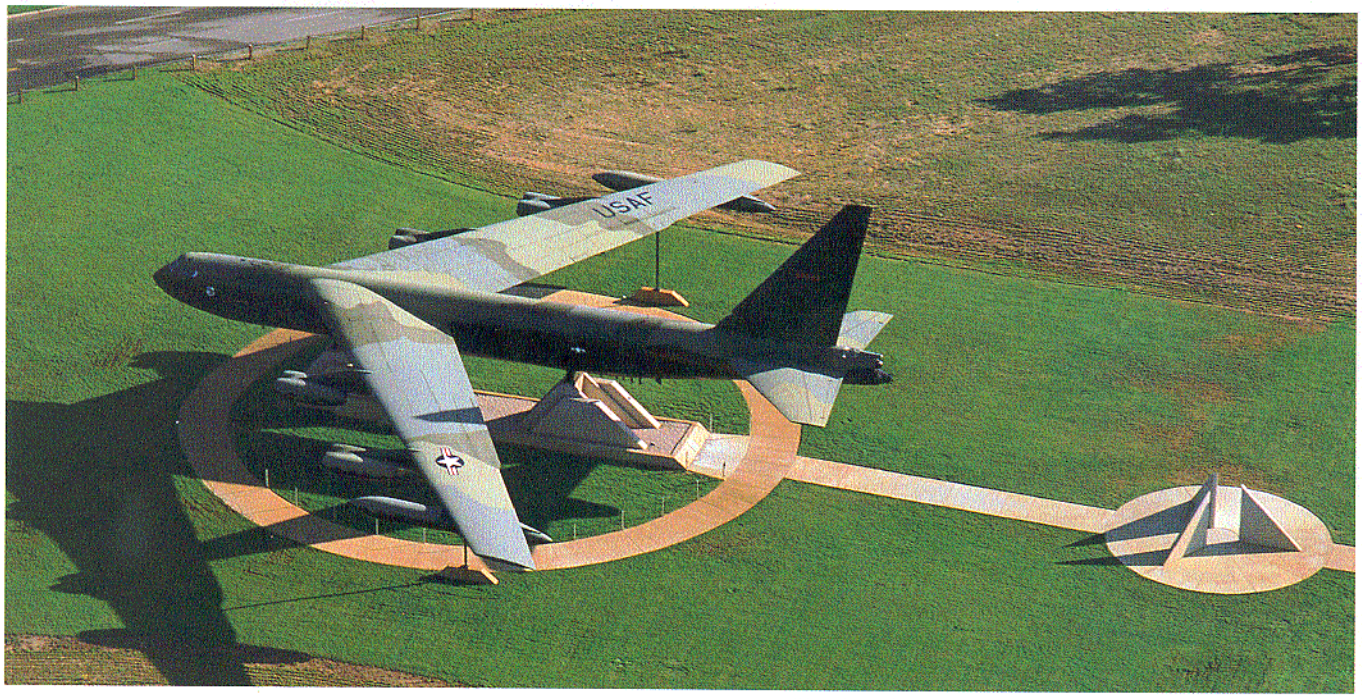
He received his Bachelor of Civil Engineering degree from Catholic University and a Graduate Study in Engineering Administration degree from George Washington University.

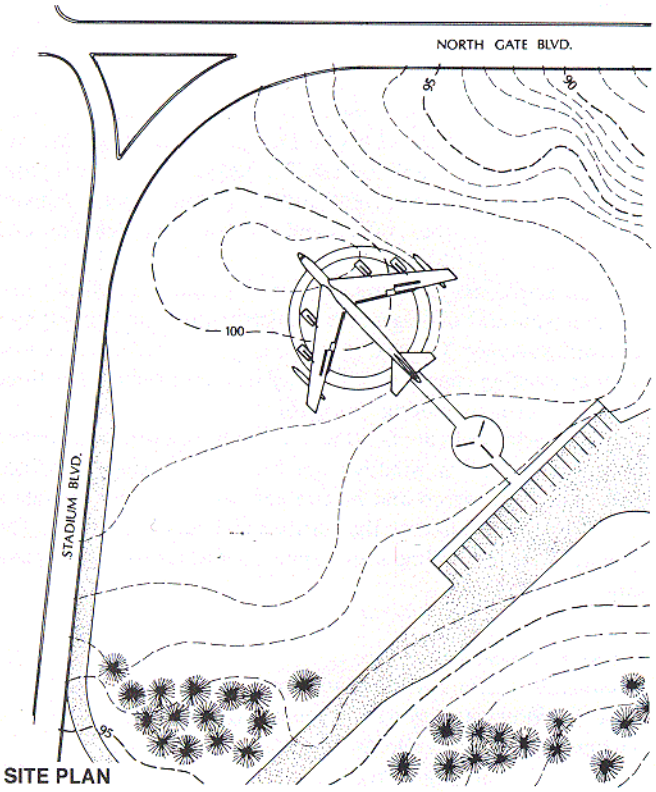
Jury

Honor Award

Static Aircraft Display
United States Air Force Academy, Colorado

Architect: Duane Boyle and Michael Bissonette, 7625 CES





SITE PLAN

The donation of a B-52 bomber to the United States Air Force Academy tested the skills and ingenuity of the base civil engineering staff who were tasked to display the aircraft. Their decision to present the aircraft in a flying attitude and the way this was accomplished has resulted in an outstanding display and a popular landmark at the Academy.

The display is constructed on a flat site without trees and at the intersection of two major roads. The aircraft is supported approximately 14 feet above grade by two concrete pylons and presents a dramatic image from all approaches. A kiosk composed of three concrete wedges with information plaques stands on the approach to the aircraft from the parking area. The design of the kiosk is consistent with the geometric layout of the project.

The concrete pylons are sculpted to compliment the angles of the tail and wings of the aircraft. Each pylon is anchored with two 18-inch diameter caissons and nine 12-inch diameter sub-caissons. A steel connection yoke attaches the aircraft to each pylon. A wing support was added at the tip of each wing to keep the wings from drooping.

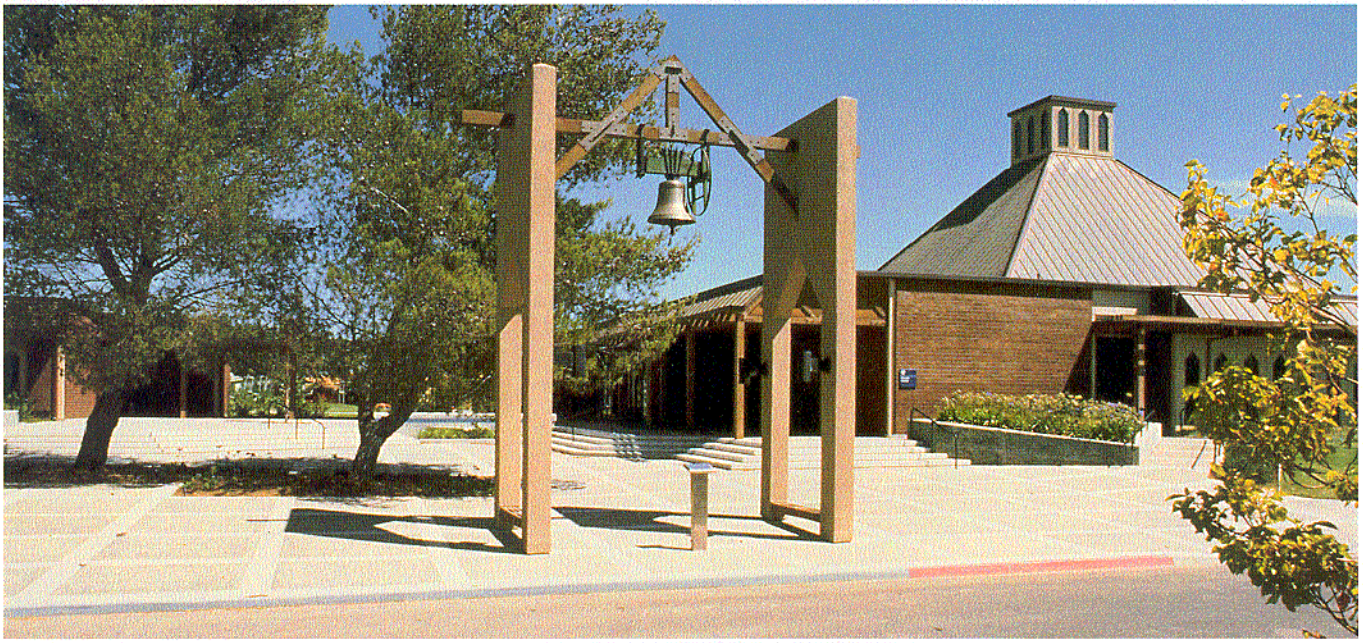
The aircraft was flown into Peterson Air Force Base where the interior was stripped and the wings were cut to prepare it for the trip to the Air Force Academy. This preparation took two months and occurred simultaneously with initial site work.

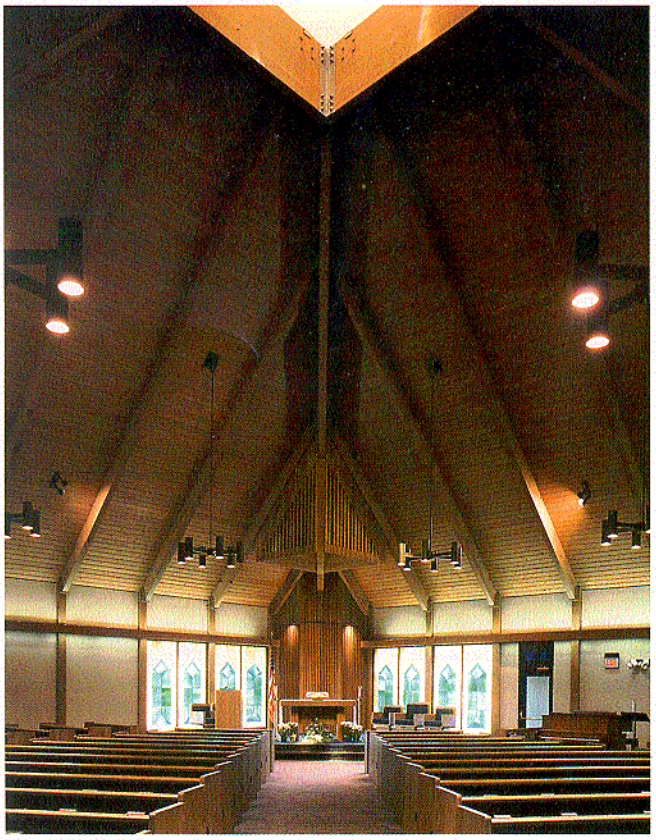
Command/ Design Agent: United States Air Force Academy
Base Engineering: 7625th Civil Engineering Squadron

Honor Award

Chapel
Travis AFB, California

Architect: Naval Facilities Engineering Command / Western Division





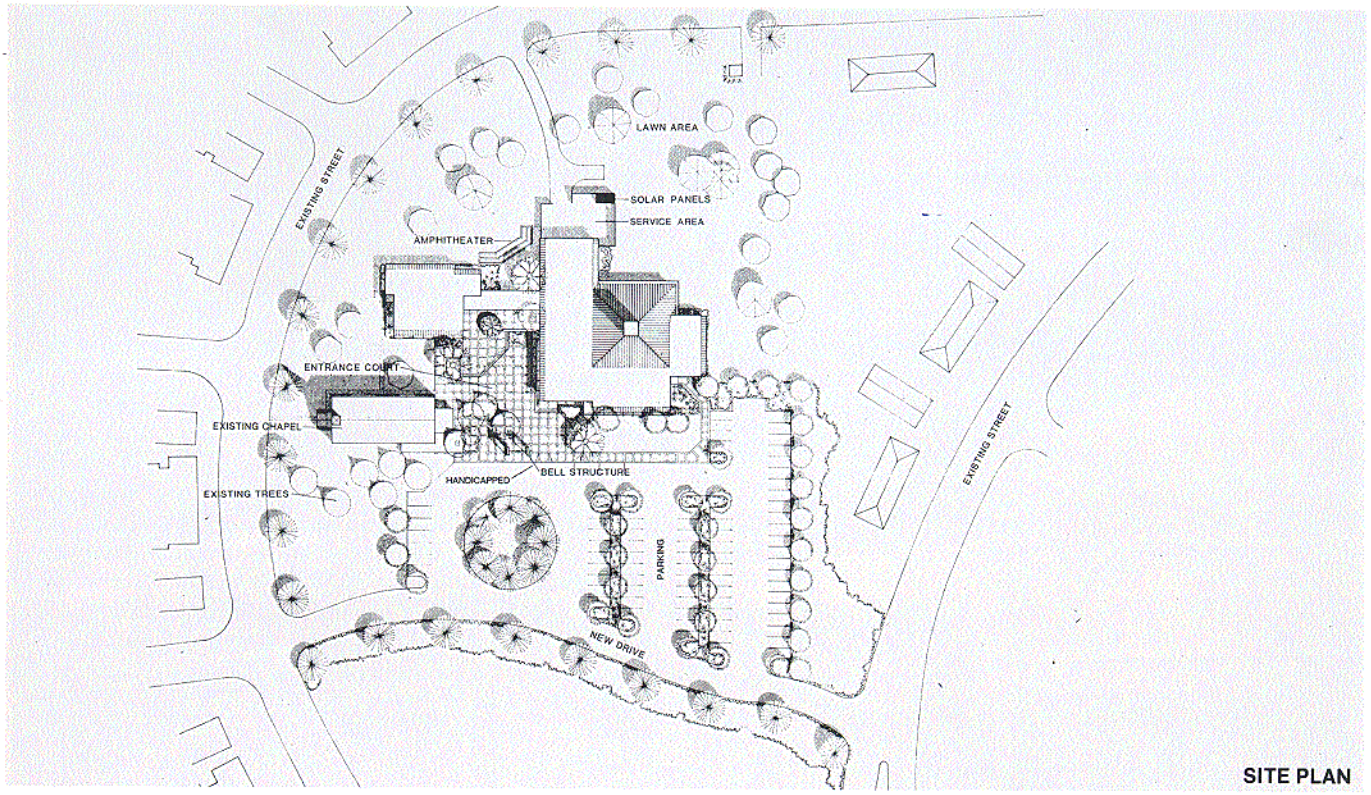
The new Chapel Center at Travis Air Force Base personifies design excellence. Functional needs are satisfied, the building is attractively massed and detailed, the building relates well to its site and the forms and materials used are compatible with the predominant architectural theme of the neighborhood.

The quality of design promised by the concept design—which was recognized in the 1982 USAF Design Awards Program—has been realized in brick and mortar. The 300-seat sanctuary is properly the focal point of the project and its pyramidal roof dominates the flat-roofed Narthex, offices and classrooms clustered around on all sides.

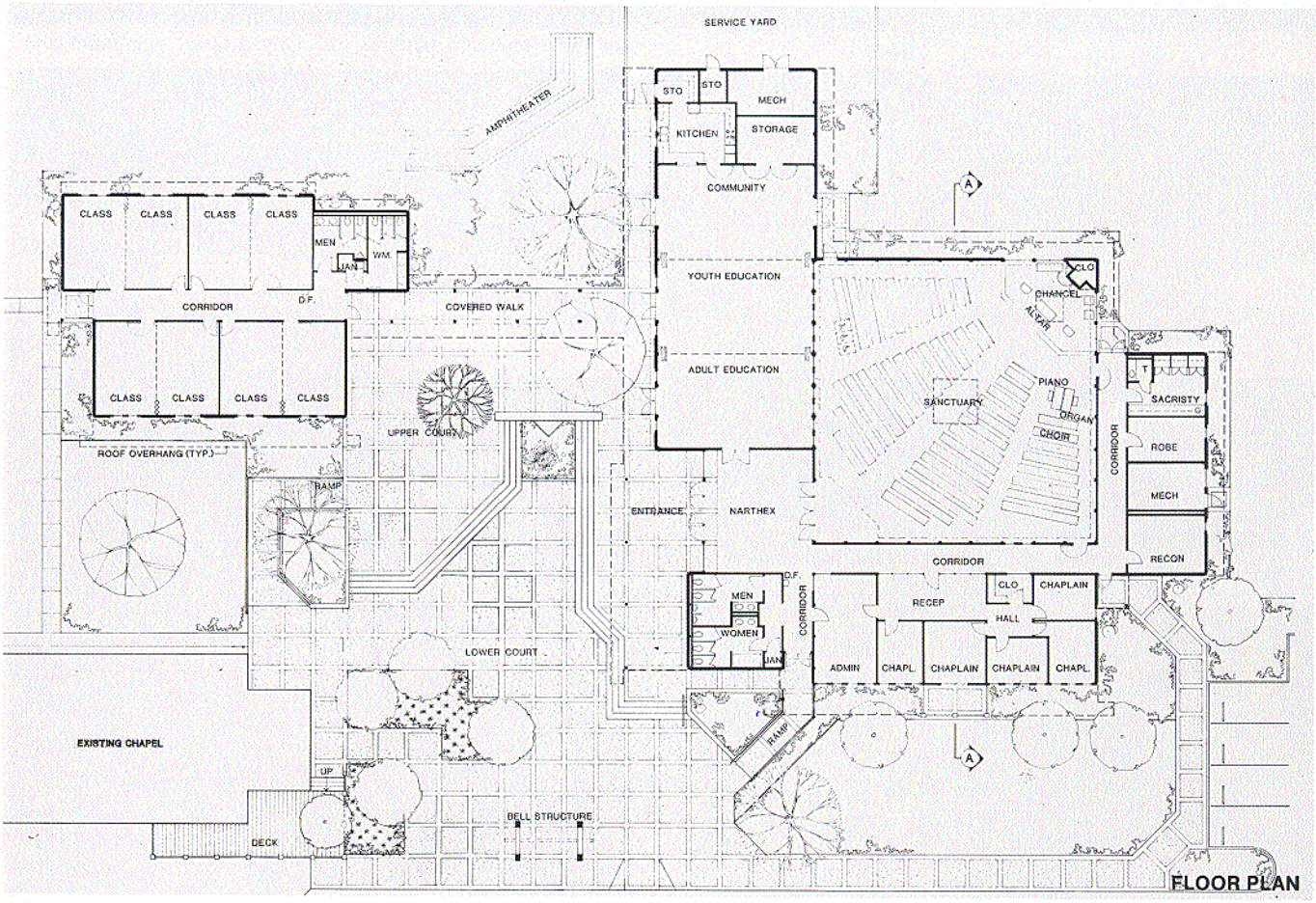
Eight additional classrooms are grouped along a central corridor in a separate building which is linked to the main building by a covered walkway. The two new buildings are sited to relate well with an existing chapel which is used as a teen center. The three buildings form an inviting courtyard.

The exterior walls are faced with warm brown brick and arched anodized aluminum windows are framed with stucco. Stained glass with blue, green and bronze geometric patterns provide a backdrop in the Chancel, the Narthex and cupola windows. The Sanctuary has a standing seam copper roof which rises steeply to a cupola.

AFRCE: Western Region
Command: Military Airlift Command
Base Engineering: 60th Civil Engineering Squadron
Design Agent: Naval Facilities Engineering Command, Western Division



SITE PLAN

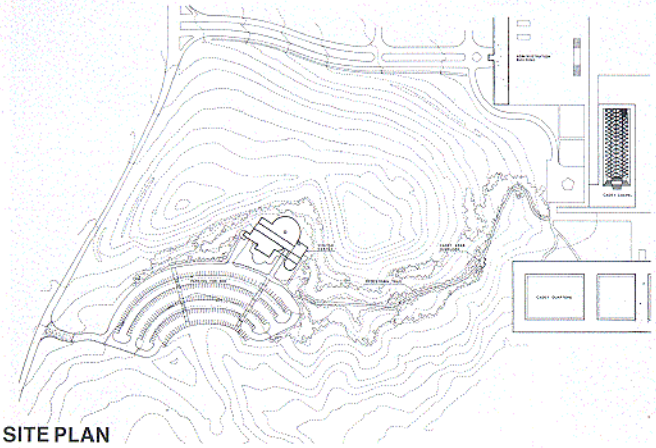


FLOOR PLAN

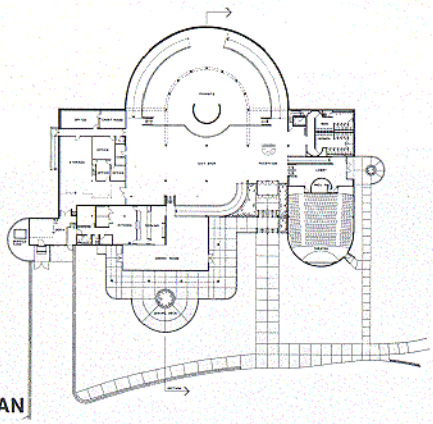
Honor Award

Visitor Center
United States Air Force Academy, Colorado

Architect: John James Wallace + Associates



SITE PLAN



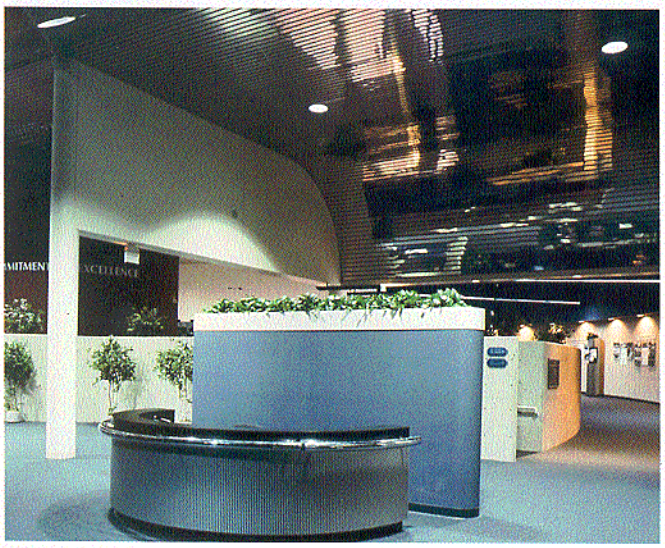
FLOOR PLAN

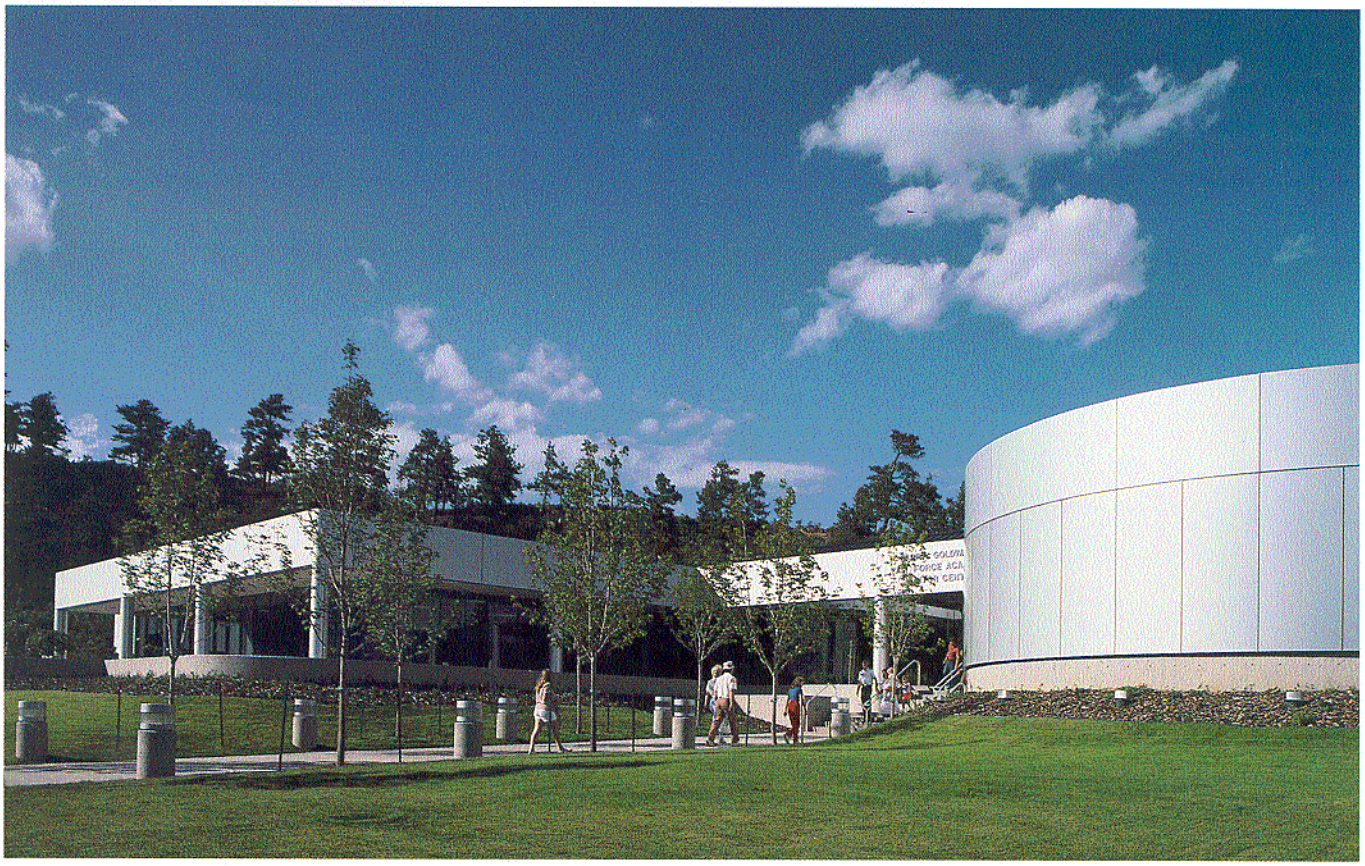
The United States Air Force Academy Visitor Center has a new home after operating out of temporary quarters for nearly thirty years. The new building is located on a densely wooded south-facing hillside adjacent to the Cadet Area and Chapel. The site, which was extremely precipitous and difficult to build upon, was nevertheless selected on the basis of its close proximity to the Chapel, Colorado's most popular man-made tourist attraction. Easy access into the Visitor Center's new 300-car parking lot encourages Chapel visitors to park there. This relieves traffic congestion in the Cadet Area and dramatically increases usage of the Visitor Center. The two attractions are connected by a short pedestrian trail which offers a pleasant walk through the woods.

The Visitor Center location near the Chapel and Cadet Area posed the problem of an appropriate architecture for the new building. It must be compatible with buildings in the Cadet Area, but its recreational nature required a less institutional or formal architecture. The finished architectural statement is one which presents a strong horizontal base, consisting of a low concrete retaining wall enclosing a dining patio, a base for the theater and provides a podium from which spring sleek high-tech pavilions. Sweeping curved forms responding to the strong contours of the site and circulation patterns, precisely detailed aluminum and glass, earthtone concrete, and carefully integrated landscaping combine to present an image that is unmistakably "Air Force Academy," but more informal and more inviting to the visitor.

The building includes four main functions—exhibits, sales, dining and theater. The hillside was used to advantage by locating each of these functions on different levels which are visible one to the other and which are connected by ramps for the handicapped.

Command/ Design Agent: United States Air Force Academy
Base Engineering: 7625th Civil Engineering Squadron





Honor Award

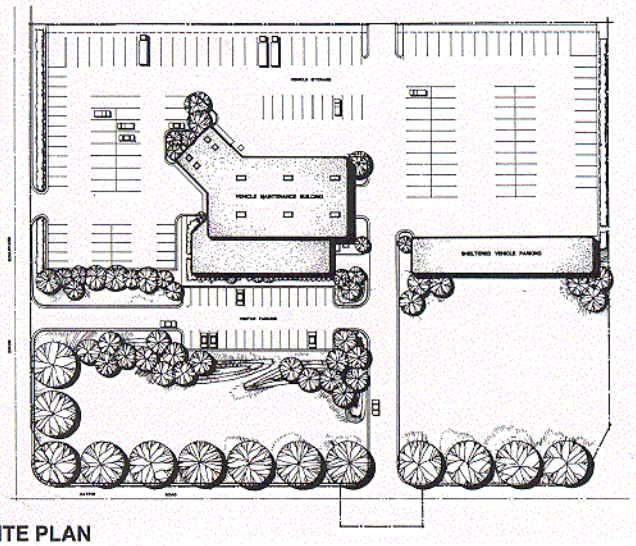
Automotive Maintenance/Refueling Vehicle Shop
O'Hare Air Reserve Forces Facility, Illinois

Architect: Ware Associates, Inc.

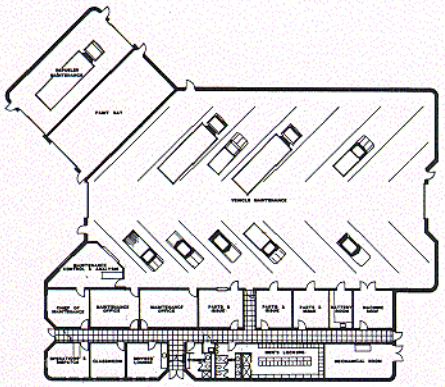
The facility integrates vehicle maintenance and refueling functions with administrative and educational functions into a single building. The design provides a clear separation of vehicle operations and people-oriented spaces and this separation is reflected in the massing of the building. The one-story administrative and support spaces are human scale and contrast with the height of the large vehicle bays.

Building materials and architectural style compliment the adjacent buildings. The major pedestrian and vehicle entrances are on the south and west elevations to conserve energy.

Host Command: Air Force Reserve
Using Command: Illinois Air National Guard
Base Engineering: 126th Civil Engineering Squadron
Design Agent: National Guard Bureau



SITE PLAN



FLOOR PLAN

Completed Project

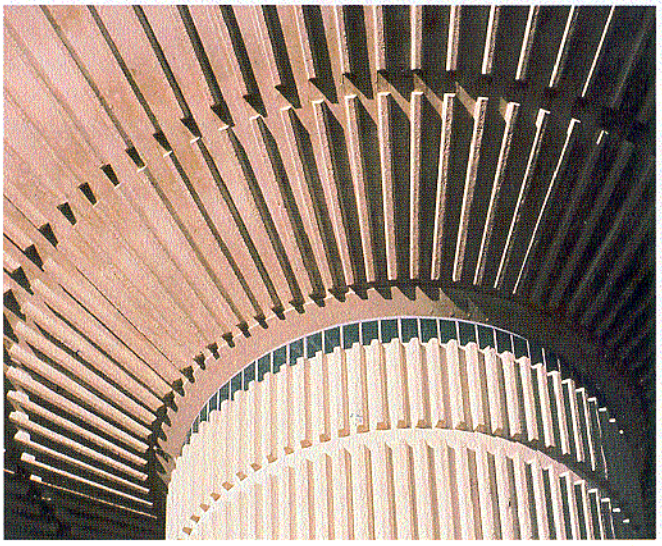
Merit Award

Water Tower
RAF Greenham Common, England

Architect: The Oxford Architects Partnership

The attractive water tower improves the water distribution system for fire protection and domestic use in the family housing area and serves as a striking new landmark at Royal Air Force Greenham Common. The space of the tower and the careful detailing of materials seek to minimize the visual impacts the tower has on the skyline and on the base environment.

Reinforced concrete was chosen for its appearance and for its low maintenance properties. White concrete with sandblasted vertical ribbing was used to provide visual interest and to control the effects of weathering. Bands of blue glazed tiling were used at the top and bottom of the shaft to emphasize changes in form.



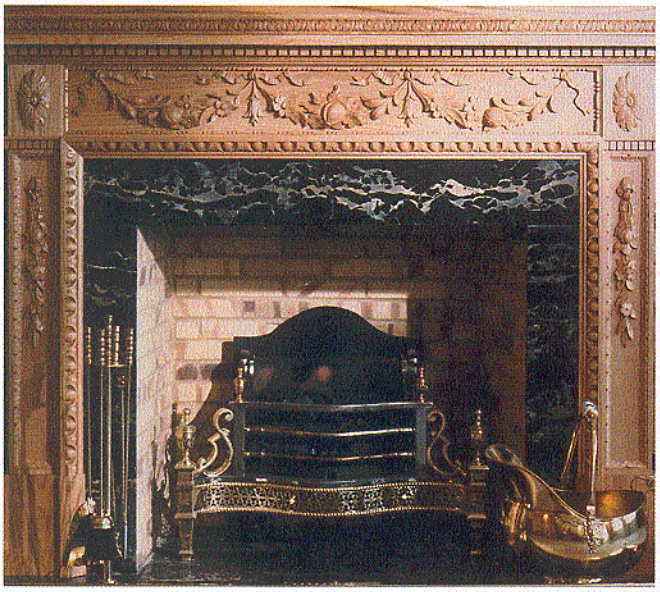
Command: United States Air Force Europe
Base Engineering: 501st Civil Engineering Squadron
Design Agent: Department of the Environment, Property Services Agency

Completed Project

Merit Award

Officers Club Alterations
RAF Mildenhall, England

Architect: Forum Architects



The renovation of this 1931 building which had been constructed as a Royal Air Force Officers Mess involved refurbishing the dining and banquet rooms, the ladies' rest room and major circulation and waiting areas. Utility systems were upgraded and functional and safety improvements were made to bring the building up to current standards. All this was attractively accomplished on a compressed construction schedule which caused minimal disruptions to club operations.

Quality materials and attention to construction details throughout the interior reflect the exterior architecture of this 18th century Georgian style building. Wood paneling and intricate wood mouldings enhance the walls and ceilings. Quality control of the paneling installation was ensured by setting up a complete joiner's shop on site. Equal care was taken in the selection of carpeting, drapery, chandeliers and leather and oak furniture to complete the interior design.

The building utilities were improved in a manner that does not compromise the architecture. The original but inefficient cast iron radiators were replaced with a new heating system consisting of a zoned and thermostatically controlled finned convector system. The convectors are artfully concealed behind the wood baseboards. The fire detection system was replaced with a new detection and alarm system which also is unobtrusive.

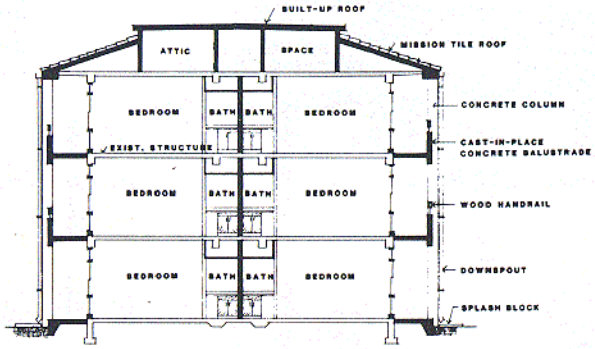
Command: United States Air Force Europe
Base Engineering: 513th Civil Engineering Squadron
Design Agent: Department of the Environment, Property Service Agency

Completed Project

Merit Award

Dormitory Alterations
Barksdale AFB, Louisiana

Architect: Richard A. Armstrong, Inc.



This project consisted of altering three existing and deteriorated three-story concrete frame dormitories to provide decent housing for enlisted personnel.

The functional layout of each building was improved by grouping all supporting lounge, game and common areas in the central area on the first floor. This permitted the second and third floors to be converted totally into bedrooms, grouped in pairs with individual bathrooms. Each bathroom serves two bedrooms, thereby eliminating gang showers and toilets. The bathrooms open to a lavatory alcove in each bedroom. Wardrobes are provided in each bedroom and are mounted in conjunction with a desk alcove.

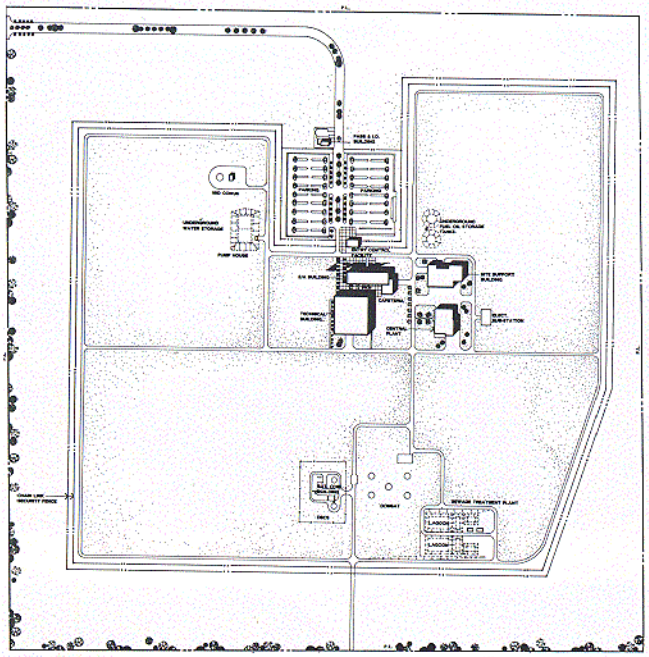
Existing wrap-around balconies were redesigned to provide individual access to each bedroom. Tile roofs with a steep slope that reflects the base architectural theme were added over the balconies. Fire exit requirements were satisfied by providing corridors which interconnect the balconies and eliminated existing dead-end corridors. Open stair towers were added at quarter points along the building as part of the fire exit improvements. These towers permit more direct access to upper floor bedrooms without the necessity of passing more than two other bedrooms on each side.

AFRCE: Central Region
Command: Strategic Air Command
Base Engineering: 2nd Civil Engineering Squadron
Design Agent: Naval Facilities Engineering Command, Southern Division

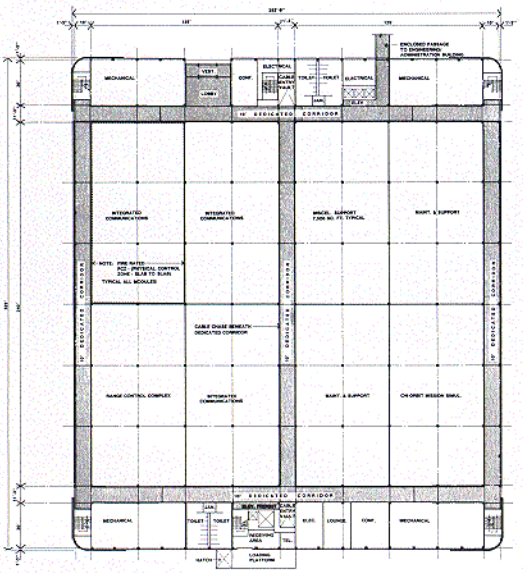
Merit Award

Consolidated Space Operations Center
Falcon AFS, Colorado

Architect: Holmes & Narver, Inc.



SITE PLAN



FLOOR PLAN

This complex provides in one central location all of the facilities needed to conduct the Department of Defense satellite command and control and the Space Shuttle operations missions. This complex operates on a twenty-four hour basis and includes state-of-the-art technology in physical and electronic security to permit uninterrupted operation.

The importance of this complex is further emphasized by the requirement that the facilities must provide mission accomplishment capability on a self-sustaining basis. The public utilities, such as water and power, are extended to and serve the site on a standard operating basis and are supplemented by back-up systems provided on-site for continuous operations during emergency conditions. Additionally, because of the relative isolation of the site and to safeguard personnel, fallout protection provisions have been included to accommodate all assigned and visiting personnel. The facilities have been designed with great flexibility potential for equipment changeout and reconfiguration of interior spaces with minimal interference and without interruption of activities.

The remote one-mile square site is in open, high-plains country surrounded by mountains. The site design evolved from strict criteria for precise positioning of various elements such as antennas. Height constraints on the buildings also were influenced by the antenna locations.

The facilities of this complex encompass 570,000 square feet and include the Technical Building, the Engineering/Administration Building, the Site Support Building, a central heating plant and various ancillary facilities. The Technical Building is the primary building of the complex and includes 180,000 square feet of raised computer flooring and a high bay module for a shuttle simulator. The architecture of this windowless, vault-like building sets the theme for all of the other buildings. The use of precast concrete panels with three different surface textures and color shades presents an appealing appearance and provides the physical protection for the facilities.

The Engineering Administration Building continues this architectural theme but includes windows to provide natural daylighting into the open office areas and to provide panoramic views of the adjacent mountain range.

Numerous energy conservation features are incorporated into the buildings including a heat recovery system, peak-shaving programs and an Energy Monitoring and Control System.

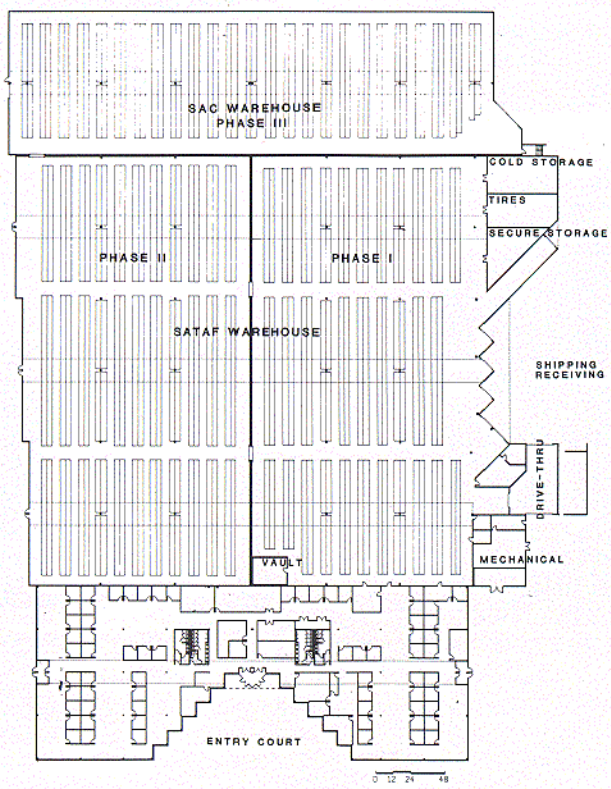
AFRCE: Central Region
Command: Air Force Space Command
Base Engineering: 1001st Civil Engineering Squadron
Design Agent: Corps of Engineers/Omaha District


JACK SWIGERT
SPACE OPERATIONS FACILITY

Merit Award

Integrated Support Complex
F.E. Warren AFB, Wyoming

Architect: RNL, Inc.



FLOOR PLAN

Many of the brick buildings on this Wyoming base were constructed in the 1880's to serve barracks and stables for a U.S. Army supply post established to support the construction of the Union Pacific railroad. These buildings are listed as part of a historic district in the National Register of Historic Places.

This 164,000 square foot administrative and warehouse complex is located near the historic district. The building form responds both to the location and the environmental conditions. As the complex is larger than most buildings on the base, the walls of the large warehouse are offset at 100-foot intervals to create the appearance of a cluster of buildings and to reduce the scale. The exterior panels, which vary in color tone from dark colors at the base to lighter colors at the roof lines, further help to reduce the scale.

Roof monitors are incorporated into the building to provide daylighting to all areas, to organize the mechanical distribution within the warehouse areas and to reflect the shape of many of the historic buildings.

Building orientation was determined by the intense Chinook winds and the accompanying dust, heavy snow accumulation and intense sunshine. The administrative and warehousing functions of the facility each have their separate circulation patterns. The administrative entry courtyard is to the south and allows for optimum exterior exposure of offices.

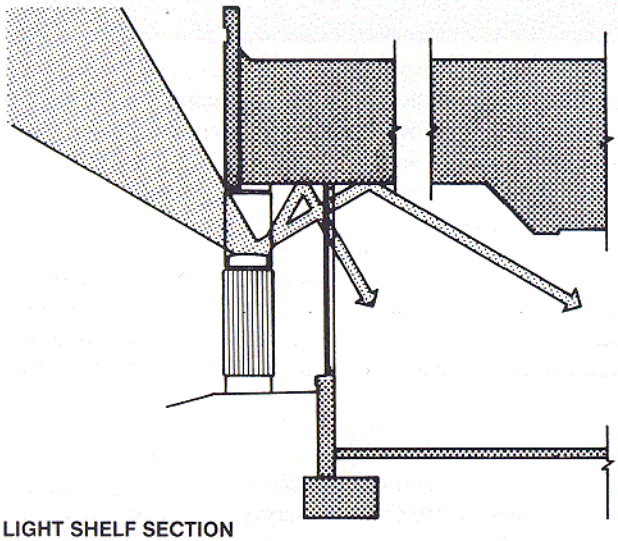
AFRCE: Ballistic Missile Support
Command: Strategic Air Command
Base Engineering: 90th Civil Engineering Squadron
Design Agent: Corps of Engineers/ Omaha District

Concept Project

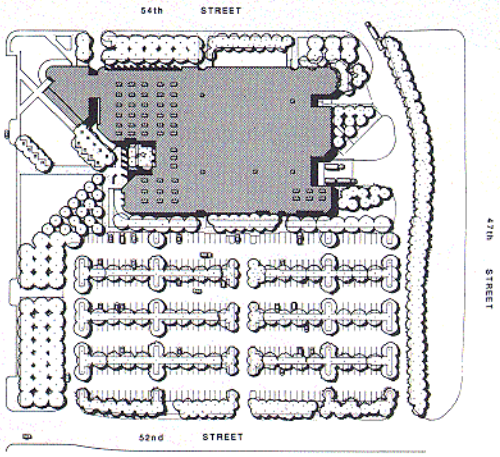
Merit Award

Logistical Systems Operation Center
McClellan AFB, California

Architect: Vitiello & Associates, Inc.



LIGHT SHELF SECTION

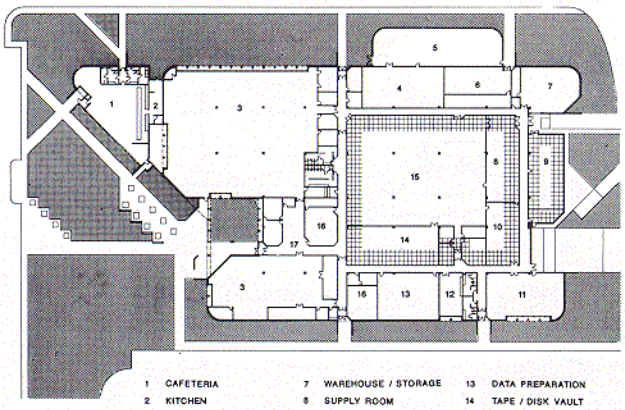


SITE PLAN

This 80,000 square foot building is designed to provide a cohesive tie with adjacent base buildings of diverse architectural styles. The building is clad in precast concrete panels with integral color and vertical fluting. Each elevation is uniquely different to accommodate functional and environmental requirements. The continuous horizontal band of butted green glass and the rounded corners create a smooth transition from one elevation to the next. All mechanical equipment is screened from view by an integrally designed mechanical enclosure.

Passive solar design features include light shelves that reduce incoming solar radiation and heat gain but project the daylighting deeper into the building, electronically monitored skylights, earth berms and proper building orientation.

AFRCE: Western Region
Command: Air Force Logistics Command
Base Engineering: 2852nd Civil Engineering Squadron
Design Agent: Corps of Engineers/ Sacramento District

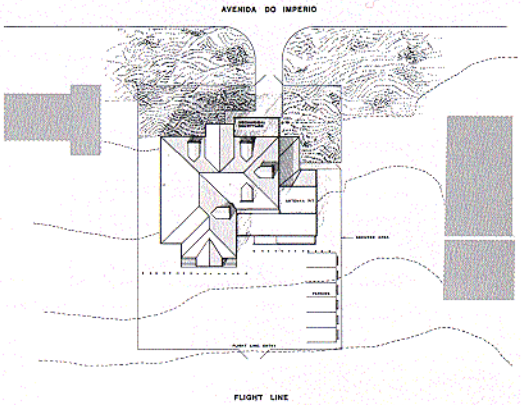


FLOOR PLAN

Merit Award

Crew Readiness Facility
Lajes Field, Azores

Architect: Ivy-Wall-Ltd., Inc.

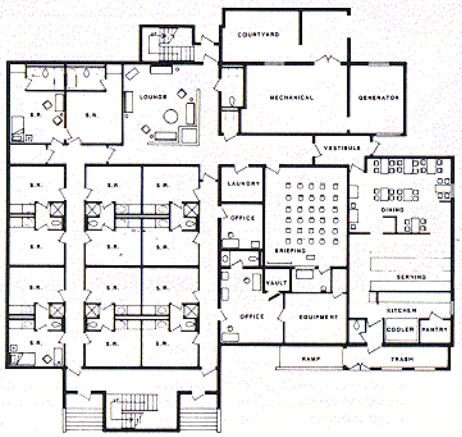


SITE PLAN

The facility provides living quarters for pilots and flight crew officers on alert duty and includes offices, workrooms, a briefing room, lounges, a dining area and kitchen facilities.

Arched roof dormers, a simulated clay tile roof and an arched colonnade are typical of the features incorporated into the design to reflect the local Mediterranean architectural style. Color, art, ceiling textures and accent lighting enliven the windowless interior spaces. A concrete structural frame and the development of the various rooms and spaces as windowless concrete boxes provide protection from potential terrorist attacks.

AFRCE: Eastern Region
Command: Military Airlift Command
Base Engineering: 1605th Civil Engineering Squadron
Design Agent: Naval Facilities Engineering Command, Atlantic Division



FIRST FLOOR PLAN

SECOND FLOOR PLAN

Merit Award

Dining Hall Alterations
Offutt AFB, Nebraska

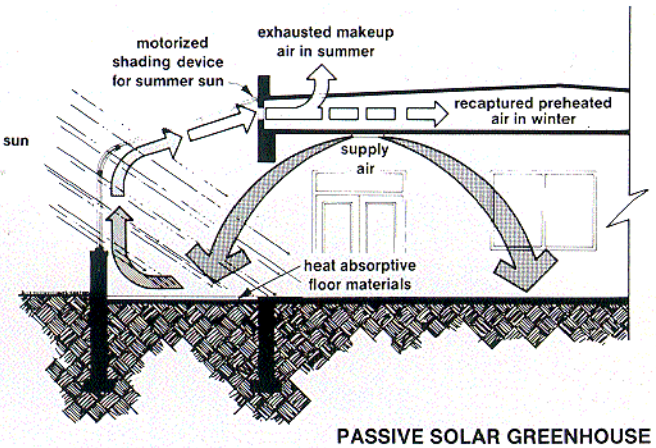
Architect: Kirkham, Michael & Associates

The program requirements to expand an existing dining hall sited between two dormitories and to provide enclosed pedestrian circulation from those buildings and a new dormitory to a common entry point have been admirably satisfied by this attractive renovation project.

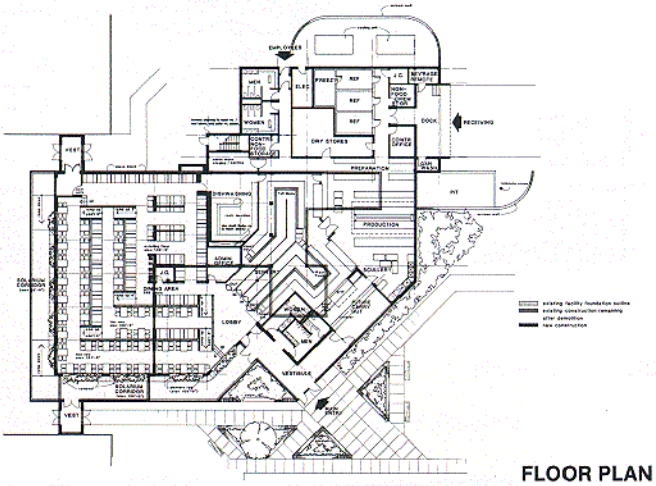
A passive solar "solarium corridor" on the west and south sides of the building not only resolves the circulation needs and adds architectural interest, but the corridor is energy efficient. Return air from the dining area is directed into the "solarium" where the air is heated by the sunlight. The heated air is circulated through the building as required. The return air volume is thermostatically controlled and, when the solar contribution provides no benefit to the air conditioning system, the "solarium" air is exhausted to the outside. Internal shading controls the sunlight entering the corridor.

The new dining area will provide seating on three separate levels. This approach reduces the scale of the dining area into three more personal areas, separates the dining areas (in combination with planters) from the corridor traffic and elevates the dining areas sufficiently above the corridors to enhance the views. Different accent colors give each dining area a separate identity.

The kitchen is expanded and designed to support two serving lines and a future snack bar. The dining hall will operate 24 hours per day, seven days per week and provide breakfast, lunch, dinner and a midnight meal. The snack bar will operate between dinner and the midnight meal.

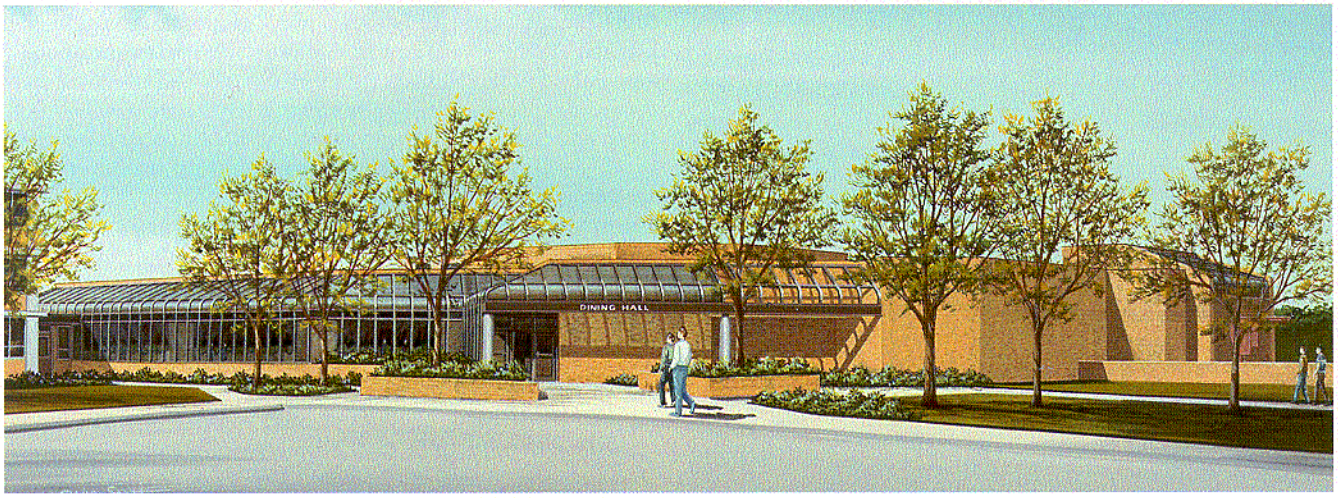


PASSIVE SOLAR GREENHOUSE



FLOOR PLAN

AFRCE: Strategic Air Command
Command: Strategic Air Command
Base Engineering: 55th Civil Engineering Squadron
Design Agent: Corps of Engineers/ Omaha District

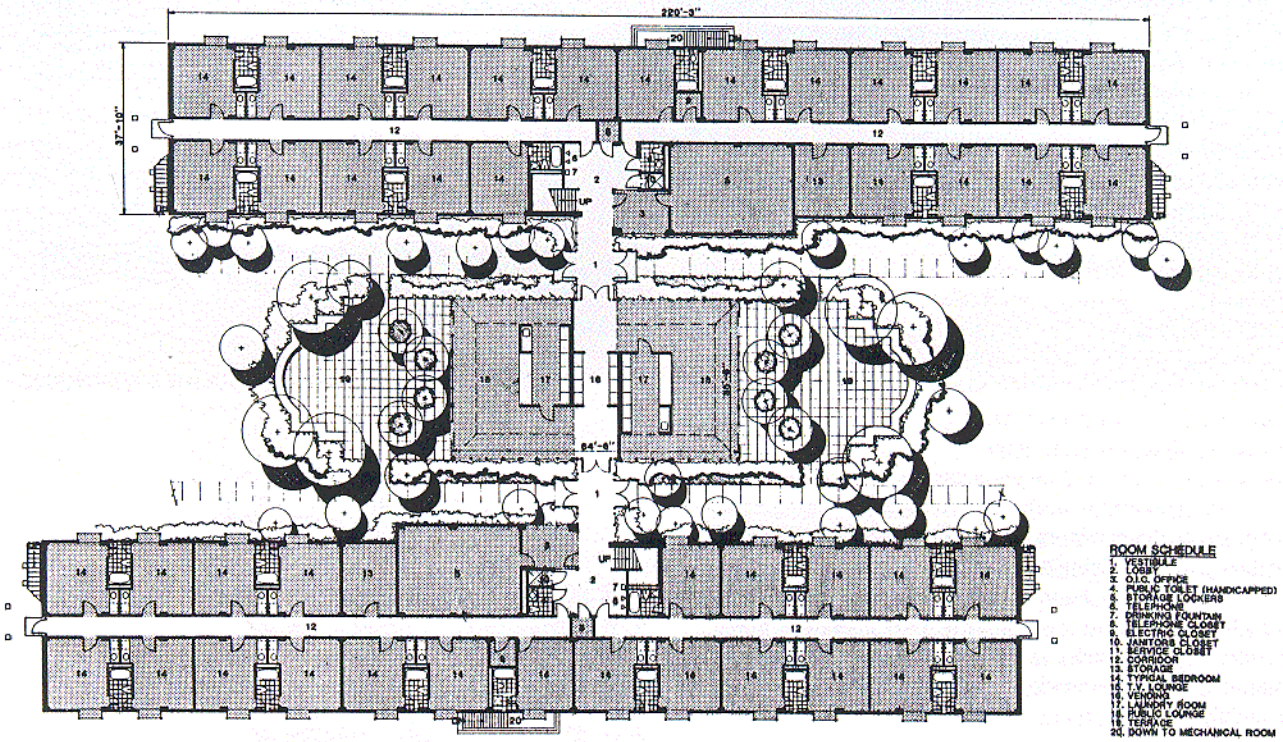


Concept Project

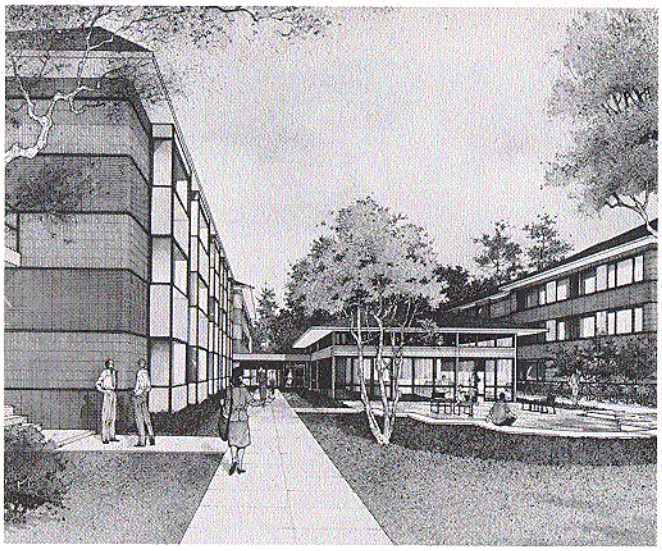
Merit Award

Dormitory Alterations
McGuire AFB, New Jersey

Architect: Castro-Blanco, Piscioneri & Associates



FIRST FLOOR PLAN



The complete renovation of these four existing dormitories includes providing double-occupancy rooms with semi-private baths, lounges and locked storage rooms within the existing buildings and adding several new pavilions between the existing buildings. Each double room has a built-in lavatory and wardrobe and the rooms are enhanced by new squared bay windows which add space and light. The new one story pavillions contain lounges, vending areas and laundry rooms and have courtyards to encourage outdoor social gatherings.

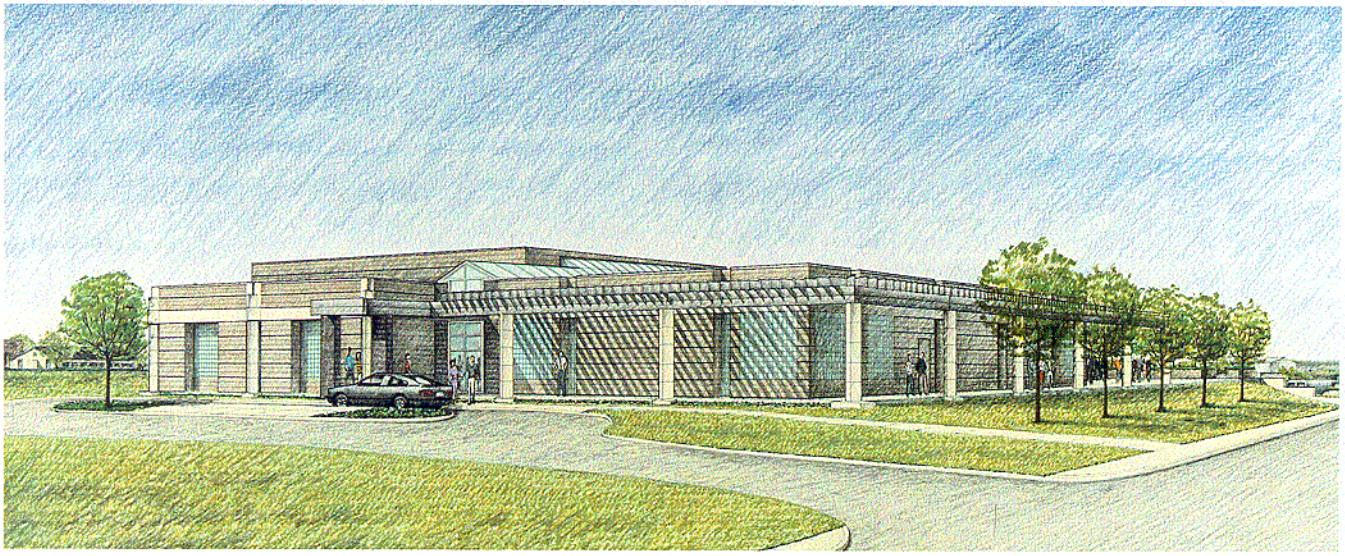
The existing dormitory roofs are capped with trussed roofs that help to create a more residential appearance to the buildings and to provide better insulation and increased weatherability.

AFRCE: Eastern Region
Command: Military Airlift Command
Base Engineering: 438th Civil Engineering Squadron
Design Agent: Corps of Engineers/New York District

Merit Award

Officers Club
Goodfellow AFB, Texas

Architect: Omniplan, Inc.

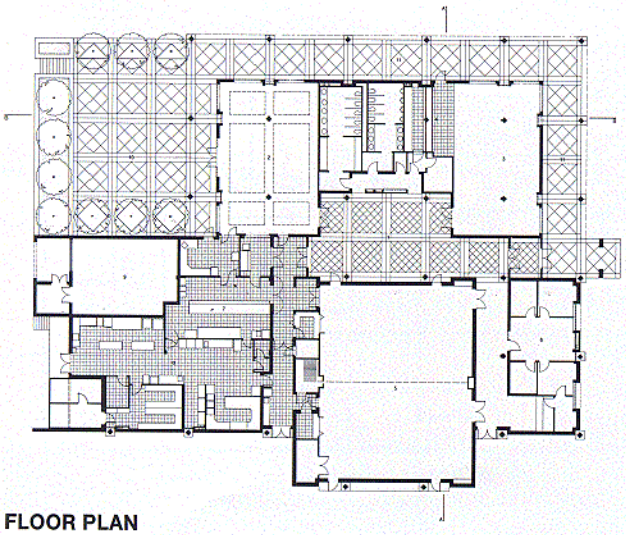


The new Officers Club is designed to accommodate 250 patrons and includes a central lobby, lounge, dining room, ballroom, kitchen, administrative offices and other related support spaces. The building is sited and designed to allow for future addition of the Non-Commissioned Officers Club. The addition will expand the offices, ballroom and kitchen but will maintain separate entrances, lobbies, lounges and dining rooms for the two clubs. The southern elevation is windowless to permit easy expansion and to reduce the cooling load.

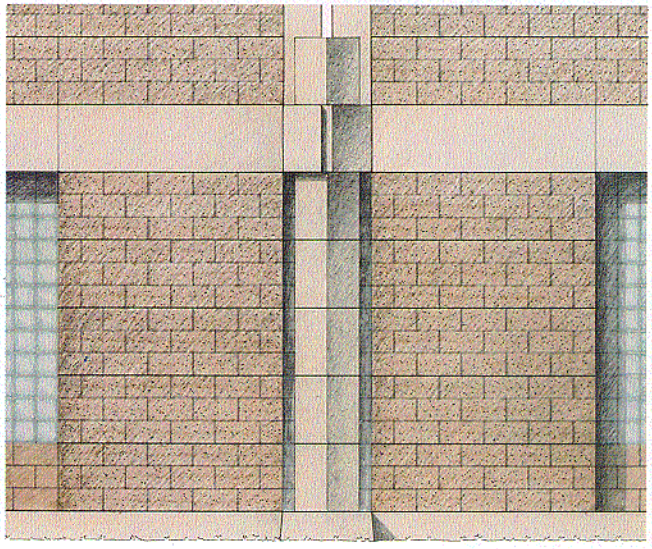
The exterior of this facility has split and burnished face concrete block with a warm buff color which blends with the natural environment and is compatible with the existing base structures. This block also serves as a structural bearing wall integrated into the post and beam structural design.

Elm and oak trees are used to frame the building and to create an oasis effect on a fairly busy site. Crape myrtle along the northern edge of the site enhances the view from the lounges, dining room and veranda. Small ornamental trees surround the courtyard and offer protection from the western sun.

AFRCE: Central Region
Command: Air Training Command
Base Engineering: 3480th Civil Engineering Squadron



FLOOR PLAN



Merit Award

Personnel Support Facility
Fort MacArthur, California

Architect: Benton/Park/Candreva, AIA

The new Personnel Support Facility is an excellent example of adaptive renovation of an existing building. The building was constructed in 1917 as a nitrate processing plant and consisted of a long, single-story space over 30 feet in height. The space was divided longitudinally into thirds by two 22" thick walls which supported heavy timber posts which, in turn, supported heavy timber roof trusses. An intermediate floor of heavy timber construction had been added in the early 1940's.

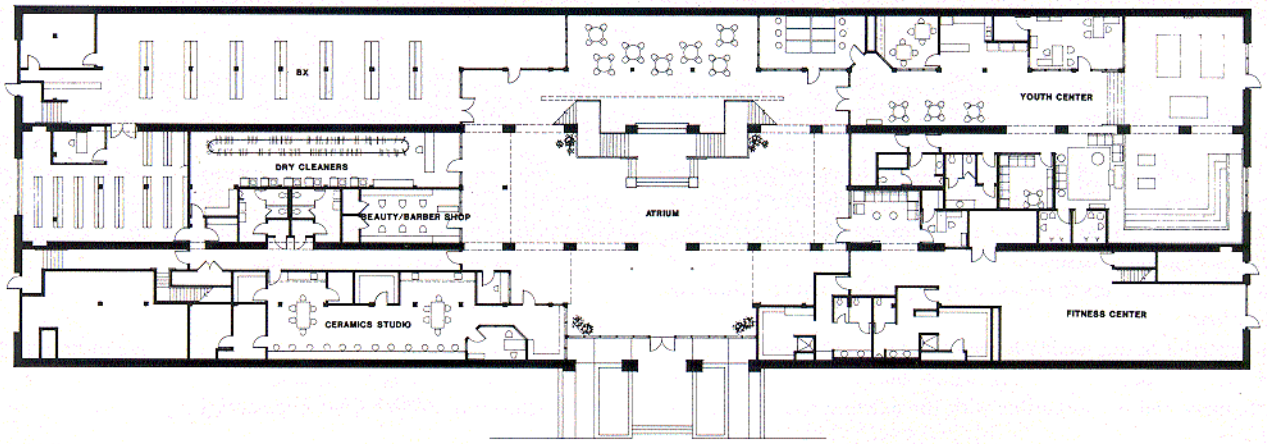
A number of constraints will control the renovation as the building is listed in the National Registry of Historic Places. The beautiful timber roof trusses will be left exposed and unaltered and only minor changes will be made to the exterior walls. A new entrance will be added and the existing windows will be replaced with new aluminum windows that match the appearance of the existing windows.

The major and most dramatic changes to the building occur inside. A central, three-story atrium will be created by removing part of the existing floor and by cutting openings in the interior concrete walls. This will provide a central gathering place with attractive landscaping and a number of large skylights.

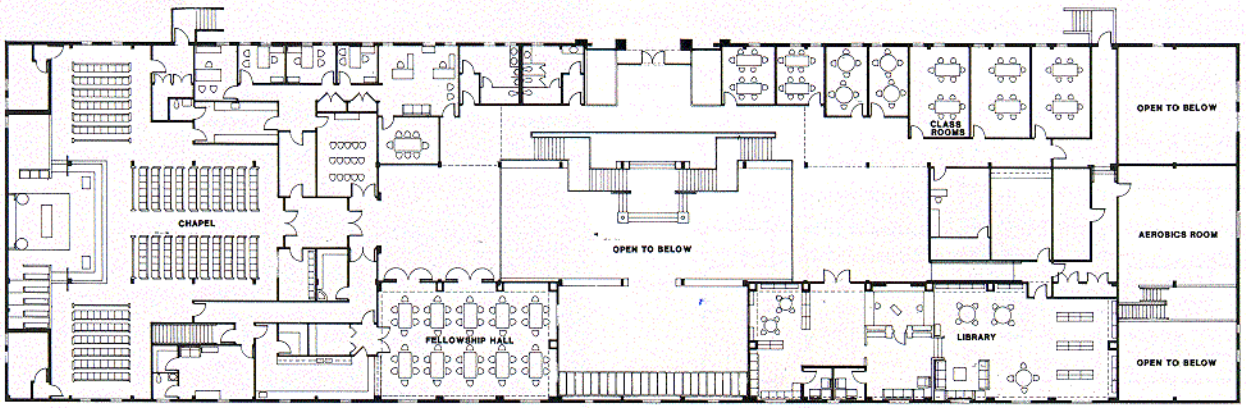
The building will contain a chapel and supporting facilities, youth center, arts and crafts center, physical fitness center, education center, library, general offices, snack bar and a number of service activities.

Simple interior finishes and muted colors will be used to emphasize the existing timber construction.

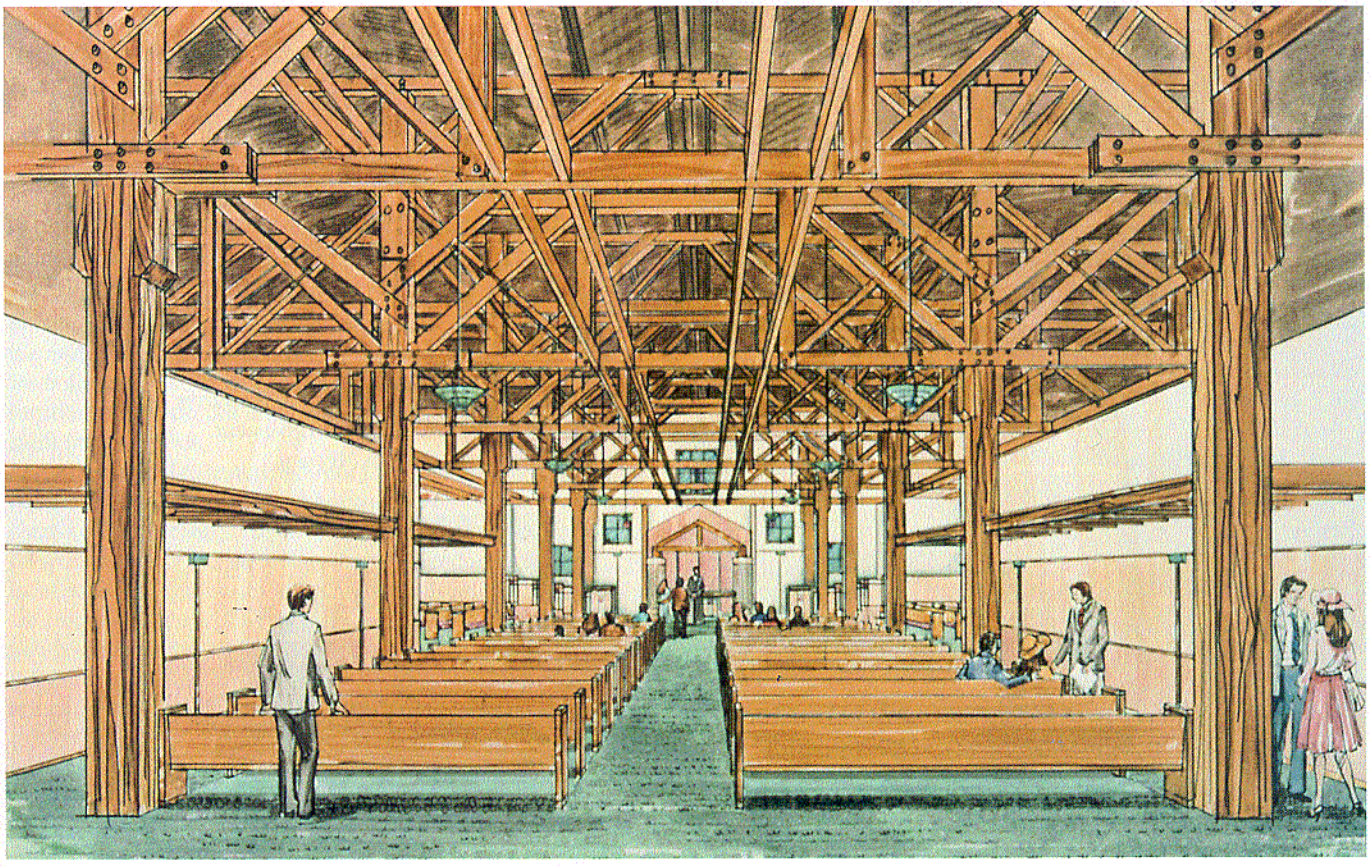
AFRCE: Western Region
Command: Air Force Systems Command
Base Engineering: 6592nd Air Base Group/DE
Design Agent: Naval Facilities Engineering Command, Western Division



FIRST FLOOR PLAN



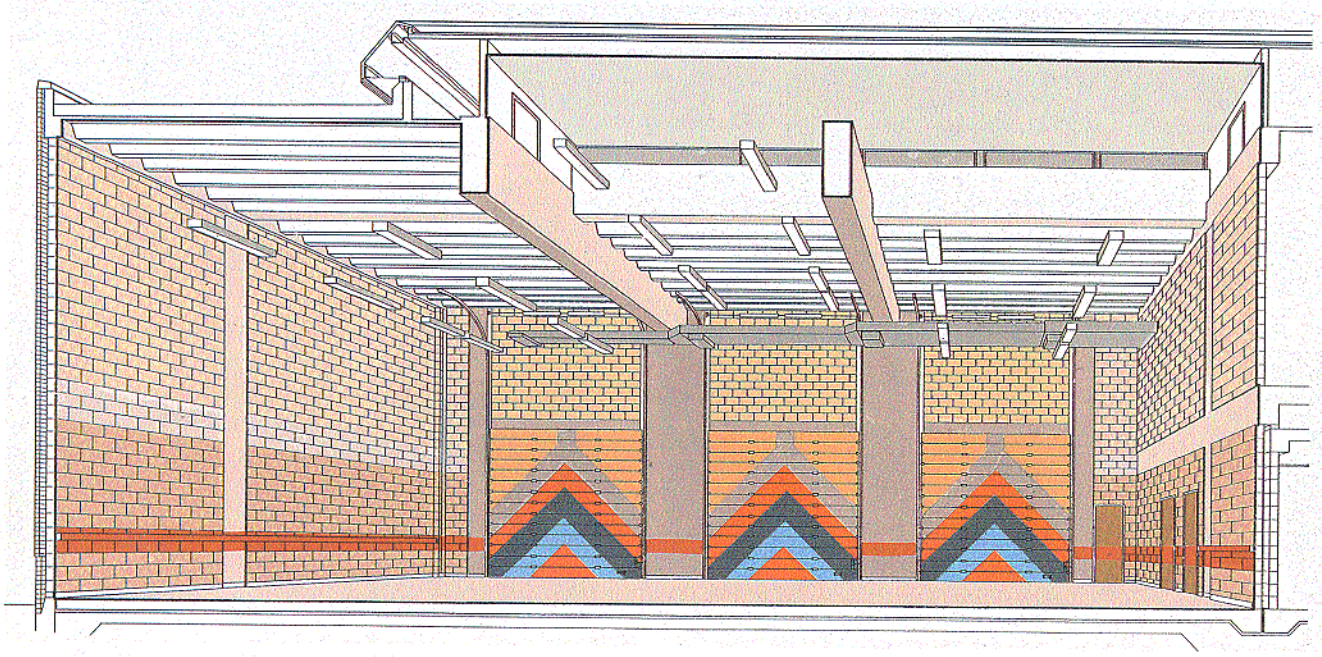
SECOND FLOOR PLAN



Merit Award

Operations and Maintenance Training Facility
RAF Molesworth, England

Architect: Atkins, Sheppard, Fidler Associates



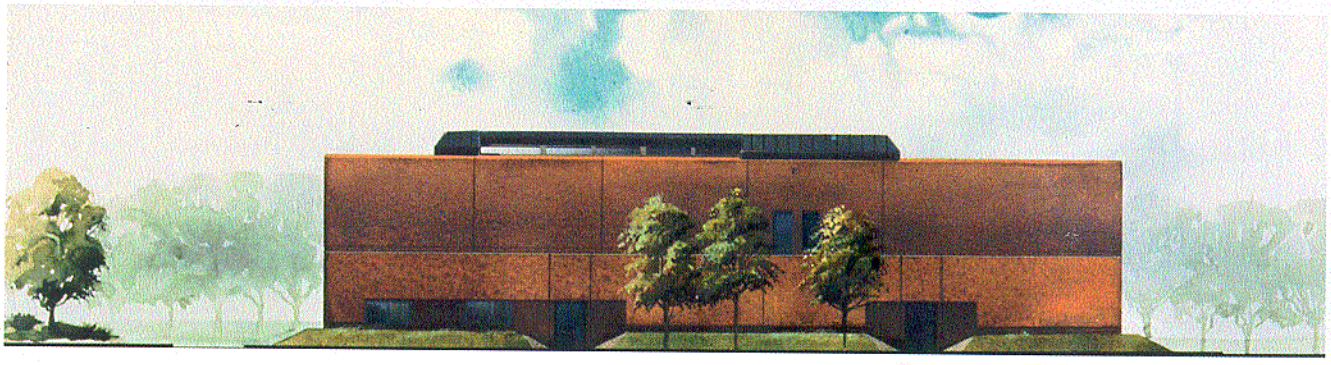
This 15,000 square foot building is designed to accommodate administrative areas, classrooms and simulator equipment that will provide both operations and maintenance training of personnel to support the Ground Launch Cruise Missile program. The complex functional requirements and the varied headroom requirements have been efficiently and attractively resolved into a simple rectangular building.

Particular attention has been paid to achieving the necessary acoustic attenuation around the perimeter of the secure areas and between certain rooms within this area. Structural separation is provided between secure and non-secure zones and all requirements for secure areas have been met, including a solution to the sound attenuation problem for the overhead door in the operations bay.

The exterior design is compatible with the base architectural theme through the careful use of brick colors, details and extensive landscaping. The external cladding is comprised of two types of brick. A red/brown multifacing is the primary color with a blue brick used to create a base above an earth berm and to emphasize entrances. Special bricks are used along the parapet to provide further compatibility.

A low earth berm is used along three sides of the building to provide visual softening and compatibility with nearby semi-hardened buildings. Plant types have been selected to minimize maintenance.

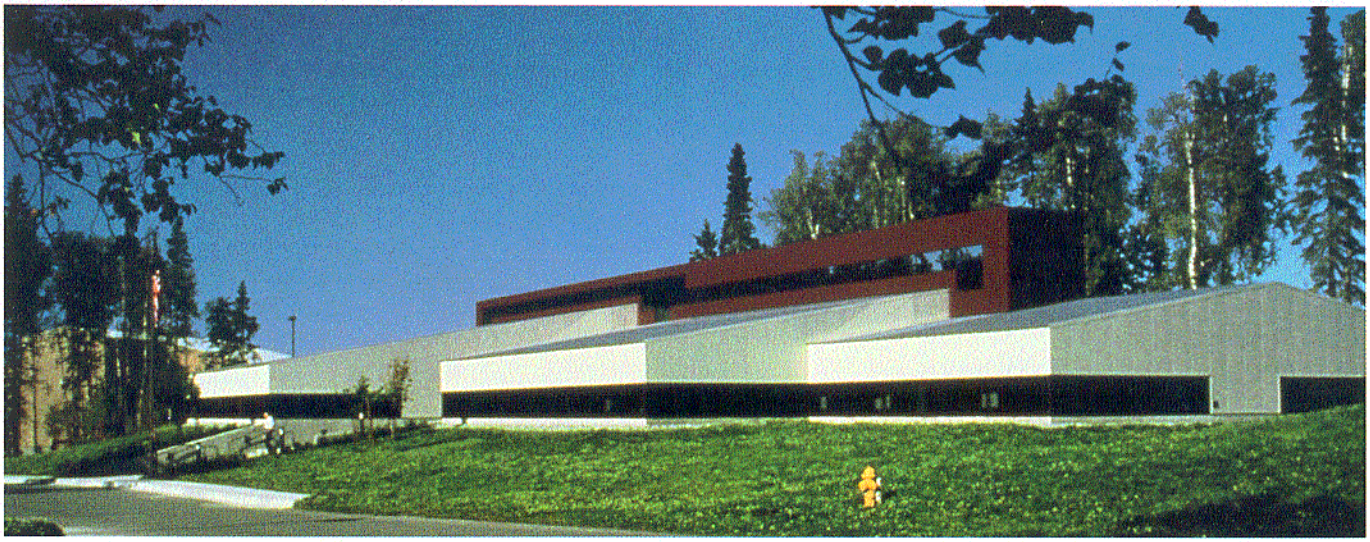
Command: United States Air Force Europe
Base Engineering: 10th Civil Engineering Squadron
Design Agent: Department of the Environment, Property Services Agency



1986 Department of Defense Design Award

Operations and Training Facility
Kulis ANG Base, Alaska

Architect: Kumin Associates, Inc.



Imaginative building massing, use of color and retention of existing site landscaping features demonstrate that a tight budget need not preclude good design. This one-story pre-engineered, steel frame building contains offices, meeting rooms and classrooms for the Alaska Air National Guard. It is constructed of prefabricated metal wall and roof panels to be architecturally compatible with surrounding buildings and to minimize construction costs in this high-cost area.

The site features heavily wooded, rolling terrain. Although the base master plan showed an access road cutting along the northern boundary of the site with little regard for existing topography, the design team relocated the access road to enter on the south side of the site and follow an existing draw. This greatly reduced the site development costs. The building is nestled into an existing ridge on the northeast side. This permits the maximum amount of glazing for both passive solar heat gain and daylighting purposes. Those functions which do not require daylighting are located along an earth sheltered wall.

A primary design feature is a roof light monitor which provides natural daylighting along the main circulation spine and acts as a chimney for the central collection of excess heat. During heating periods, the heat which flows up along the interior stepped ceilings is collected in the monitor and recirculated through the building by the return air system. During periods of overheating, the ventilation system switches to 100% outside air and the heat collected in the monitor is vented directly to the outside by exhaust fans located at each end of the monitor.

Command/ Design Agent: National Guard Bureau
Using Command: Alaska Air National Guard
Base Engineering: 176th Civil Engineering Squadron

1986 Department of Defense Design Award

Minimally Attended Radar
Four Sites in Alaska

Architect (Concept): Maynard and Partch
Architect (Construction): Corps of Engineers/ Alaska District

These permanent and self-contained composite support facilities replaced obsolete 1950's facilities that were too large and inefficient to support new minimally attended radar equipment. The sites are remote in isolated, rugged, mountainous terrain where temperatures range from plus 90 degrees Fahrenheit to minus 67 degrees Fahrenheit. Maximum wind speeds vary from 80 to 120 miles per hour with ground snow loads ranging from 80 to 148 pounds per square foot. Three sites are accessible only by air; the fourth site also can be reached by ocean going barge.

The purpose of these facilities is to efficiently provide insulated and heated shelter for personnel, support systems, vehicles and supplies. One of the major demands on manpower is the clearing of snow from the runway and the road to the top camp where the radome is located. Fuel and non-perishables are supplied annually; perishables are supplied every two weeks by fixed wing aircraft, weather permitting.

Major design considerations were livability, convenience, energy conservation and ease of maintenance. Residential and industrial functions are separated and housed in a pair of two-story circular drums with respective diameters of 45 and 50 feet. An enclosed bridge connects the drums at the second floors.

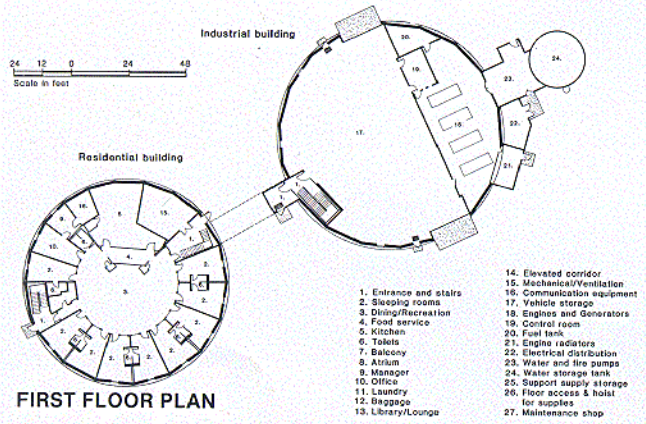
The drums are framed with steel columns, beams and joists. Footing, gradebeams and floor slabs are concrete. One site is on permafrost and has thermal piling to keep the subsoil frozen. The buildings are capped with aluminum industrial geodesic domes. The insulated dome panels are constructed of polyurethane foam formed between two sheets of aluminum.

The pie-shaped rooms in the residential building open onto a central atrium. General lighting is indirect and is a mixture of HID systems to simulate daylight. Lighting is controlled by timers that change the lighting levels according to the time of day.

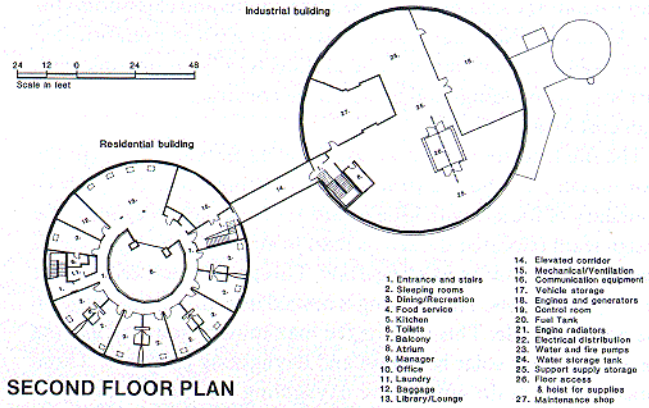
Sleeping rooms are in suites with shared baths except for one room on each floor with a private bath. Permanent personnel are housed at single occupancy and temporary duty personnel are housed at double occupancy.

Energy conservation measures include efficient building surface to volume contained plus an R value of 33 or better, few exterior windows and use of triple glazing, arctic entries at all major personnel doors, and use of waste heat from the generators for building heat with back-up boiler.

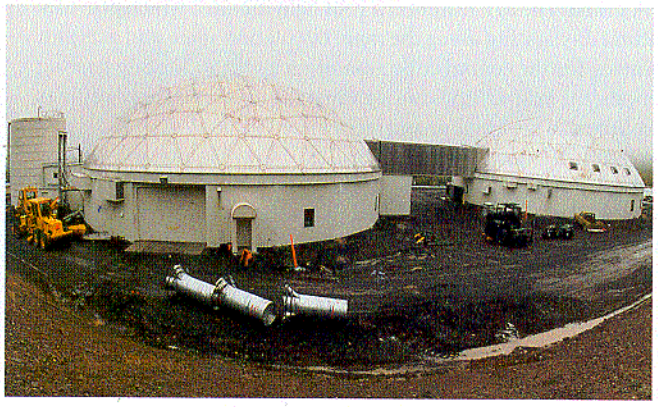
Command: Alaskan Air Command
Base Engineering: 5099th Civil Engineering Operations Squadron
Design Agent: Corps of Engineers/ Alaska District



FIRST FLOOR PLAN



SECOND FLOOR PLAN



1986 Department of Defense Design Award

Composite Operations and Training Facility
Bangor International Airport, Maine

Architect: JSA, Inc.

This handsome facility contains 24,000 square feet of administrative, technical and educational space for the Maine Air National Guard. The building is organized along a major pedestrian circulation spine that splits the building in two segments. All of the administrative functions accessible to the public are located along this spine. The public circulation area is further defined inside and outside by a 300-foot long skylight and by brick pavers.

The core of the building is shielded from natural light and contains a TV studio, darkrooms, mechanical functions and storage. The training and technical support spaces are located on the north side of the core. The classrooms are separated by operable, acoustical partitions which permit these spaces to be used for large group activities.

Energy conservation and low operational costs were prime concerns in the design of this northern Maine facility. The continuous south-facing skylight functions as a passive solar collector. Part of the heat gain is stored by the masonry wall that runs the entire length of the spine. Active hot water solar collectors are incorporated into the skylight glazing system over the entry vestibule. The building has a continuous earth berm to provide additional insulation and a roof overhang on the south side to provide protection from summer heat gain.

Command/ Design Agent: National Guard Bureau
Using Command: Maine Air National Guard
Base Engineering: 101st Civil Engineering Squadron

Director of Engineering Services: Major General George E. Ellis
Deputy Director: Brigadier Joseph A. Ahearn
Chief, Architecture Engineering Branch: Mr. William A. Brown, Sr.
Editor: Mr. James P. Enloe